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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10 014,730	12 10 2001	Muhammad Islam	TI-32699	5772

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EXAMINER

MOTTOLA, STEVEN J

ART UNIT	PAPER NUMBER
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2817

DATE MAILED: 12 19 2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/041,730

Applicant(s)

M. Hammud et al

Examiner

M. Hala

Group Art Unit

2817

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☐ Responsive to communication(s) filed on _____.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-17 is/are pending in the application.
- ☐ Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1-17 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) _____.
- ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____.

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other _____

Office Action Summary

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The disclosure is objected to because of the following informalities: it appears that in fig. 1 the outputs are mislabeled as "1Aout1" and "1Aout2" when they should read --1aout1-- and --1aout2--. Fig. 2 should be labeled as --prior art--.

Appropriate correction is required.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the complementary embodiment of claim 5 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

It has not been explained how the arrangement "reduces transistor beta loading effects" as claimed in the independent claims 1,8,10.

Art Unit:

Claims 12-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 refers to specific transistor collector currents, resistors and current sources to define the variables of the gain equation but it is impossible to positively associate any of these to the transistors, resistors or current sources claimed as no interconnections have been defined.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,4-8 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Stoichita et al.

Refer to fig. 2 and the description of which begins at line 59 of col. 3 of Stoichita et al. Stage 202 is a mixer input stage and may be read as the input quad stage of the independent claims. Stage 208 receives current inputs IBB and provides output currents IF; it includes resistive feedback (resistors RF) and shunt feedback and current to voltage conversion (note in re claim 4 and see col. 5 lines 41-45) and may be read as the second stage claimed. Stage 206 includes current transfer circuitry and may be read as the coupling stage claimed. Note the transistors of stage 206 are complementary to those of the rest of the circuit (note in re claim 5).

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The limitation to the reduction of transistor beta effects in the independent claims is not being treated here in view of the issue raised above under 35 U.S.C. 112. Claims 6-7 only specify intended uses of the invention, but note that the circuit of Stoichita et al. is integrated (abstract).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2,9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stoichita et al. in view of Jones.

The difference between these claims and Stoichita et al. is the emitter degeneration resistors claimed for the quad stage; however, such resistors are shown in Jones (fig. 4, multiplier 58, resistors R7,R8 for instance) and it would have been obvious to utilize such resistors in the mixer 202 of Soichita et al., identified as similar to a Gilbert four quadrant multiplier cell (col. 3, last

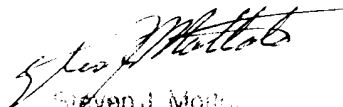
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two lines of Stoichita et al.) because Jones teach their use in a multiplier that is also identified as a well known Gilbert cell multiplier (col. 5, lines 45-47).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Mottola whose telephone number is 703-308-4914. The examiner can normally be reached on M-Th from 8 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Pascal, can be reached on (703) 308-4909. The fax phone number for the organization where this application or proceeding is assigned is 703-308-6251.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


Steven J. Mottola
Examiner